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Case 2009-1853

Alexandria, VA
22313-1450

From: Dr. Mitchell Swartz
Weston, MA 02493

RESPONSE UNDER 37 CFR 1.116

EXPEDITED PROCEDURE

Fax: FAX 571 273 0052	Date: August 27, 2011
Phone:	Pages: 48 (Part 4) (including this page)
Re: REPLY BRIEF **Case Number Redacted by Examiner Palabrica** DATED August 26, 2011	CC: Thank you.

Serial No : 09/ 748,691 12/26/2000 Filed: 10/20/2009

BACKGROUND: Sadoway (WO 91/06959)

354. Sadoway (WO 91/06959) is a simple Fleischmann-Pons system. According to Sadoway the applied magnetic field comes from an electromagnetic or a permanent magnet which is used to "enhance fusion initiation" [Page 6, line 13]. Sadoway (WO 91/06959)has an international filing day of October 25th 1990 and a priority day of October 25, 1989. In fact, attention is directed to the fact that Sadoway leads away from the present invention as it uses a simple Fleischmann-Pons system and a magnetic field to "enhance fusion initiation" [Page 6, line 13]. With all the respect, Swartz (SN 07/371,937, filed June 27, 1989, now SN 09/750,480) was the first to use magnetic fields to improve fusion and enhance the fusion rates In the present invention, 691, there is used an applied magnetic field which is spatially inhomogeneous and is used to extract products based on differential magnetic susceptibilities. This is a very different from the use of the magnetic field in Sadoway or Swartz (SN 07/371,937, now SN 09/750,480). Sadoway does not have any of the features of the present invention.

BACKGROUND: Van Noorden (NL 8909-962-A)

355. Van Noorden (NL 8909-962-A) is invention for a simple Pons and Fleischmann system used to generate neutrons. Van Noorden uses a very homogeneous magnetic field through means of "an electric coil in which the electrolysis cell is mounted". Van Noorden (NL 8909-962-A) is dated 12/1/89. In fact, attention is directed to the fact that Van Noorden leads away from the present invention as it uses Va simple Pons and Fleischmann system, generates neutrons, and has a very homogeneous magnetic field through means of "an electric coil in which the electrolysis cell is mounted". Simple electrodynamics reveals that the magnetic field intensity is nearly constant therein. There is no planned applied spatial inhomogenity. Furthermore, Van Noorden (NL 8909-962-A) is dated 12/1/89. With all the respect, Swartz (SN 07/371,937, filed June 27, 1989, now SN 09/750,480) was the first to use magnetic fields to improve fusion and enhance the fusion rates (July 1989). In the present invention, 691, there is used an applied magnetic field which is spatially inhomogeneous and is used to extract products based on differential magnetic susceptibilities. This is a very different from the use of the magnetic field in Sadoway or Swartz (SN 07/371,937, now SN 09/750,480). This proves that the present invention has significant novelty and non-obviousness.

Van Noorden (NL 8909-962-A) uses a simple Pons and Fleischmann system, a neutron generating subsystem, and a very homogeneous magnetic field. It is constant therein. There is no extraction. There is no planned applied inhomogenity. Van Noorden does not have any of the features of the present invention.

BACKGROUND: Dufour (WO 91/01036)

356. Dufour (WO 91/01036) is a simple Fleischmann-Pons apparatus, and has a filing day of July 6, 1990. In fact, attention is directed to the fact that Dufour leads away from the present invention as it uses said imple Fleischmann-Pons apparatus with a voltage source with a "pulse operating range of 10 hertz to 1 MHz" (page 10), which is not needed in the present invention, as the described in the original specification and claims. This proves that the present invention has significant novelty and non-obviousness. Dufour does not have any of the features of the present invention.

357. The Office states,

"Cedzynska et al. disclose a method for electrolytically loading isotopic hydrogen into a palladium or palladium alloy electrode by alternately charging and discharging the electrode in a plurality of cycles, each cycle including charging of the electrode with isotopic hydrogen approximately to a saturation level and then discharging the electrode to a predetermined retention level see Abstract, page 9 and Fig. 1)."

THE TRUTH - The Inventions Differ

This present invention is novel and not anticipated by the cited art, Westfall, Cedzynska and Edwards. Nowhere in Westfall, Cedzynska and Edwards, or in any combination of the Examiner's art, is any aspect of the features of '691.

The present invention, "691 involves the solid state and not plasma physics.

Even the applied magnetic field spatial homogeneity and the way the applied magnetic field is used are different.

Furthermore, in Westfall applied electic field intensities are synchronous in time, whereas in '691 they are applied metachronously (at different points in time).

Furthermore, in the present invention, additional techniques are used and features exist, unlike Cedzynska and Edwards.

Cedzynska and Edwards include none of the features of the present invention.

Edwards discloses a simple Fleischmann-Pons system with a rudimentary magnetic field "to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms" (page 2, lines 15 through 18). The orientation is not given. Electrolysis is taught.

Cedzynska et al. (WO 93/01601) is a rudimentary Fleischmann-pons system which has the modification of "alternately charging and discharging electrodes".

358. Attention is directed to the fact that the following elements shown in Edwards are not present, or needed, or claimed in the present invention. Edwards uses a simple Fleischmann-Pons cell, and electrolysis is taught. The magnetic field is used "to distort electrically charged species forming during the electrolysis process at the

anode or cathode to control the rate of fusion of charge atoms" (page2, lines 15 through 18). The orientation is not given. Said unneeded elements numbered in Edwards are not needed in the present invention, as the described in the original specification and claims, thereby proving the present invention has significant novelty and non-obviousness. Furthermore, Swartz (SN 07/371,937, filed June 27, 1989, now SN 09/750,480) was the first to use magnetic fields to improve fusion and enhance the fusion rates In the present invention, 691, there is used an applied magnetic field which is spatially inhomogeneous and is used to extract products based on differential magnetic susceptibilities.

359. If the present invention, '691, was used as described in Cedzynska, it would not even work. If the present invention, '691, was used as described in Edwards, it would not even work. If the materials and elements used in Edwards, here the simple Fleischmann-Pons cell, electrolysis sought, is taught, etc., as suggested by the examiner, were to be used in the present invention, they would not function.

This present invention has which has nothing to do with Cedzynska's Fleischmann-pons cell and alternately charging and discharging electrodes".

This present invention has which has nothing to do with Edwards's simple Fleischmann-Pons system and rudimentary magnetic field "to distort electrically charged species forming during the electrolysis process at the anode or cathode ..." (page2, lines 15 through 18), which the Examiner suggests.

360. The Office states that,

"Anyone of the cited secondary references cites the application of a magnetic field as part of a claimed electrolysis-nuclear fusion process. See for example page 2 of Westfall, abstract and claims of Sadoway, abstract of Van Noorden, and page 8 of Dufour. One having ordinary skill in the art would have recognized the claimed advantage of applying a magnetic field to enhance a purported nuclear fusion process.

As to the limitations regarding creating a gradient in the intensity of magnetic field and having an inhomogeneous magnetic field, any magnetic filed applied across any material will inherently produce a gradient in the intensity of said field within the material. As to the inhomogeneity of said field, as stated in section 9, any applied magnetic field will have "inhomogeneity" because of inherent imperfections in the material (e.g., non-uniform crystal structure) or the source of the magnetic field (e.g., if an a.c. electrical source produces the magnetic field, any voltage fluctuations, which inherently always occur, will cause inhomogeneity in the magnetic field. Appellant's claim language reads on such. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Cedzynska et al. - Westfall combination, by the teaching of anyone of Edwards, Sadoway, Van Noorden or Dufour to have the

magnetic field, in addition to the orthogonal electric fields, in order to gain the advantages thereof, as this is more than the application of well-known techniques within the nuclear art."

THE TRUTH - DIFFERENT TYPES OF MAGNETIC FORCES USED

361. This was discussed in the previous Communication with the Examiner including on pages 40-42, and 73-74. Where is the Examiner's response? Instead, the Examiner just asks the same question without responding. Westfall does not produce charge particles but uses ions until they deposit (in neutral state) onto the surface of his electrode. In the present invention the material loads into the material and is used thereafter therein. However, for the sake of argument, in arguendo, even supposing that Westfall did, neither Cedzynska or Woolsey are even remotely like, or have the same methods of, or configuration of, or have the same purpose of, the present invention. Most importantly, the present invention separate a product but attention is directed to the fact that Cedzynska and Edwards and the other cited art use an entirely different and distinguishable principle.

362. Edwards demonstrate the most rudimentary of use of a rudimentary magnetic field "to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms" (page2, lines 15 through 18). Swartz (SN 07/371,937, filed June 27, 1989, now SN 09/750,480) used magnetic fields to improve fusion rates In the present invention, '691, there is used an applied magnetic field which is spatially inhomogeneous and is used to extract products based on differential magnetic susceptibilities. This is a very different from the use of the magnetic field in Sadoway or Swartz (SN 07/371,937, now SN 09/750,480).

363. The most developed cited art use of magnetic fields are in Salisbury and Hirsch. They use an entirely different and distinguishable principle from the above-entitled application which involves the use of a magnetic field intensity differently from the cited art (which use a magnetic field intensity in a magnetohydrodynamic system, as is well-known, supra). By contrast, '691 teaches an extraction proceedure using a spatially inhomogeneous magnetic field intensity which has forces which goes as $(\mu H) *(\mu H)$, and not $(v \times \mu H)$ as taught in Salisbury, Hirsch and the other cited art.

PUMPING ACTION BY A SPATIALLY INHOMOGENOUS MAGNETIC FIELD

364. As specified in the original disclosure: The pumping action upon products [other than heat] is from the action of an applied force exerted upon said product (in this case an isotope of hydrogen: tritium). The generation, and calculation, of the force induced by an applied magnetic field intensity upon the desired isotope which is generated within the CAM reactor, is derived as follows.

> **"An inhomogenous magnetic field intensity is applied by coil labelled 300 to one portion of the cathode (1). Said magnetic field is driven by the power supply (labelled 301) in the figure. The spatially inhomogenous magnetic field could also be created by a superconductor."**
>
> [07/760,970; the present application in Continuation; Underline added for emphasis]

Ampere's Law is used to calculate the line integral of the magnetic field intensity around the applied electric current. That magnetic field intensity exists mainly in the gap between the high permeability rod (around which the coil has been wound) and includes the volumes encompassing the desired isotope [cf. Figure 18 of the original specification].

> **"The differential magnetic susceptibility between isotopic fuel and the nuclear fusion product is used to magnetically pump the product to and through the barrier labelled 350. At that location there is a buildup of the isotope with the larger magnetic susceptibility due to said differential magnetic susceptibility."**
>
> [07/760,970; the present application in Continuation]

The magnetic field intensity can be derived by inspection in the gap region based upon Gauss' Law, which implies that the divergence of the magnetic flux density is zero. Therefore, the use of a volume with one surface abutting the volume containing the desired isotope and the other surface abutting the end of said rod, results in a ratio between the two magnetic fields.

365. The magnetic field as taught in the above-entitled application is spatially inhomogeneous. The original specification and claims of the present invention also taught and claimed a separation system to extract an precise product - another feature of great utility.

A magnetic field inhomogeneity, based upon the differential magnetic susceptibilities [cf. Swartz and Straus Declarations; A10-A21], creates forces which make this a

"non-linear device in the sense that the containment field distribution is spatially non-uniform. ... the ... invention is therefore a chemical collection device."

[Straus Declaration 1994]

366. The magnetic force, resulting from the applied magnetic field, is the spatial derivative of the magnetic coenergy with respect to distance.

"The magnetic force resulting from the applied magnetic field is the derivative of the magnetic coenergy with respect to distance in the axial direction, and is proportional to the square of the current, the square of the number of turns in the coil (300), and said differential magnetic susceptibility. The products are removed at the product barrier (labelled 350). If said isotopic product is of lower magnetic susceptibility, then the coil is moved toward the portion of the cathode near to the solution (6)."

[07/760,970; the present application in Continuation]

367. As an alternative means of calculating the applied magnetic force upon the desired isotope is to use the Maxwell Stress Tensor. The Maxwell Stress Tensor is based upon the orthogonal, and parallel, components of the magnetic field intensity over the surface of the desired isotope. The stress tensor is quite complex. The calculated force is based upon the spatial divergence of the stress tensor. Both methods of deriving the magnetic force are identical

368. These solutions are extremely complex but an introduction to this physics in a far simpler system [as regards ferrofluids and not the more complicated invention and products of the above-entitled application] is available in "*Electromechanical Dynamics*", Part III, Elastic and Fluid Media, H. Woodson, J. Melcher, J. Wiley & Sons, Inc., NY (1968), pages 772 to 777 [cf. figures 12.2.21 and 12.2.24].

The important result, as stated in the original specification, is that energy of the entire system decreases by the movement of the higher susceptibility isotopes towards, and into, the region containing the greatest magnetic field intensity.

369. In summary, Westfall and Cedzynska and Edwards are different and distinguishable from applicant's claims and have none of the features of the present invention. The present invention extracts differently than Cedzynska or Edwards (supra) and are different and distinguishable from applicant's claims and have none of the features of the present invention. Corroborating this, attention is now directed to the fact that in when the present invention separates product by an inhomogeneous applied magnetic field intensity. Cedzynska and Edwards do not have the advanced technology, features, and advantages of the present invention.

370. This present invention is a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material. In the preferred embodiment, this device has two orthogonal applied electric fields with the second applied electric field intensity is delivered after full charging has been achieved. The deuteron impermeable barrier is comb-shaped labelled 55 and the cathode in the preferred configuration is divided into parallel slabs and alternate deuteron-impermeable barriers. Application of the second electric field is directed through the pairs of barriers and electrode to enhance the desired reactions. This is novel and not anticipated by the cited art. Nowhere in Edwards, Cedzynska, Westfall, or in any combination of the Examiner's cited art, is any aspect of the features of '691. Thus, the material of Applicant's invention, '691, does not read on Westfall with Cedzynska or Edwards, as the Examiner suggests, and therefore, the present application is a novel and nonobvious.

371. The Office states,

"Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the Cedzynska et al. - Wesffall combination, by the teaching of anyone of Edwards, Sadoway, Van Noorden or Dufour to have a magnetic field, in addition to the orthogonal electric fields, in order to gain the advantages thereof, as this is no more than the application of well-known techniques in the nuclear art."

THE TRUTH - EXTRACTION GOES AS H*H; DIFFERING FROM CITED ART

This present invention is novel and not anticipated by the cited art, Westfall, Edwards, Sadoway, Van Noorden, or Dufour. Nowhere in Westfall, Edwards, Sadoway, Van Noorden, or Dufour or in any combination of the Examiner's art, is any aspect of the features of '691.

Edwards, Sadoway, Van Noorden, or Dufour include none of the features of the present invention. Edwards, Sadoway, Van Noorden, or Dufour demonstrate the most rudimentary of use of a magnetic field, which is entirely different and distinguishable principle from the above-entitled application.

By contrast, the present invention, "691 involves the solid state and not plasma physics.

Furthermore, in the present invention, additional techniques are used and features exist, unlike Edwards, Sadoway, Van Noorden, or Dufour.

Even the way the magnetic fields used are different. '691 teaches an extraction proceedure using an inhomogeneous magnetic field intensity which has forces which goes as (μ H) *(μ H), and not (v x μ H).

372. Edwards (WO 90/15416) is a simple Fleischmann-Pons system with a rudimentary magnetic field "*to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms*" (page 2, lines 15 through 18).

Sadoway (WO 91/06959) is a simple Fleischmann-Pons system with an applied magnetic field to "*enhance fusion initiation*" [Page 6, line 13].

Van Noorden (NL 8909-962-A) is invention for a simple Pons and Fleischmann system used to generate neutrons. Van Noorden uses a very homogeneous magnetic field through means of "*an electric coil in which the electrolysis cell is mounted*". It is constant therein. There is no extraction. There is no planned applied inhomogenity.

Dufour (WO 91/01036) is a simple Fleischmann-Pons apparatus, with a voltage source with a "pulse operating range of 10 hertz to 1 MHz" (page 10).

373. Attention is directed to the fact that the following elements shown in Edwards (WO 90/15416), magnetic field "*to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms*" (page2, lines 15 through 18), electrolysis sought, are not needed in the present invention, thereby proving the present invention has significant novelty and non-obviousness.

Attention is directed to the fact that the following elements shown in Van Noorden (NL 8909-962-A) generator of neutrons, very homogeneous magnetic field, are not needed in the present invention, thereby proving the present invention has significant novelty and non-obviousness.

Attention is directed to the fact that the following elements shown in Dufour (WO 91/01036), a voltage source with a "pulse operating range of 10 hertz to 1 MHz" (page 10), are not needed in the present invention, thereby proving the present invention has significant novelty and non-obviousness.

374. If the present invention, '691, was used as described in Edwards, it would not even work. If the materials and elements used in Edwards, here the simple Fleischmann-Pons system with a rudimentary magnetic field "to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms" (page 2, lines 15 through 18), etc., as suggested by the examiner, were to be used in the present invention, they would not function. This present invention has which has nothing to do with Edwards' simple Fleischmann-Pons cell or magnetic field "to distort electrically charged species forming during the electrolysis ..." (page2, lines 15 through 18).

If the present invention, '691, was used as described in Sadoway, it would not even work. If the materials and elements used in Sadoway, here the simple Fleischmann-Pons system with a rudimentary magnetic field to "enhance fusion initiation" [Page 6, line 13], etc., as suggested by the examiner, were to be used in the present invention, they would not function. This present invention has which has nothing to do with Sadoway's simple Fleischmann-Pons cell or magnetic field to "enhance fusion initiation" [Page 6, line 13].

If the present invention, '691, was used as described in Van Noorden, it would not even work. If the materials and elements used in Van Noordens, here the simple Fleischmann-Pons system with neutron subsystem, very homogeneous magnetic field through means of "an electric coil in which the electrolysis cell is mounted", and with no extraction., etc., as suggested by the examiner, were to be used in the present invention, they would not function. This present invention has which has nothing to do with Van Noorden's simple Fleischmann-Pons cell, neutron subsystem,very homogeneous magnetic field, and lack of extraction.

If the present invention, '691, was used as described in Dufour, it would not even work. If the materials and elements used in Dufour, here the simple Fleischmann-Pons system with with a voltage source with a "pulse operating range of 10 hertz to 1 MHz" (page 10), etc., as suggested by the examiner, were to be used in the present invention, they would not function. This present invention has which has nothing to do with Dufour's simple Fleischmann-Pons cell or with a voltage source with a "pulse operating range of 10 hertz to 1 MHz" (page 10).

375. Attention is directed to the fact that the following elements shown in Edwards (WO 90/15416), magnetic field "to distort electrically charged species forming during the electrolysis process at the anode or cathode to control the rate of fusion of charge atoms" (page2, lines 15 through 18), electrolysis sought, are not needed in the present invention, thereby proving the present invention has significant novelty and non-obviousness.

Attention is directed to the fact that the following elements shown in Van Noorden (NL 8909-962-A) generator of neutrons, very homogeneous magnetic field, are not needed in the present invention, thereby proving the present invention has significant novelty and non-obviousness.

Attention is directed to the fact that the following elements shown in Dufour (WO 91/01036), a voltage source with a "pulse operating range of 10 hertz to 1 MHz" (page 10), are not needed in the present invention, thereby proving the present invention has significant novelty and non-obviousness.

376. The original specification teaches (page 4, line 26 through page 5, line 3), the best mode contemplated by the inventor of carrying out his invention

" ...label 1 represents the metallic cathode, usually palladium in the preferred configuration. ... The label 7 represents the anode which in the preferred embodiment is composed of palladium. The label 6 represents the solution consisting in the preferred embodiment of a gel containing antidesiccant, in combination with LiOD, palladium salts, and heavy water (D2O). "

Where are these in the cited references?

377. The original specification teaches (page 5, lines 14-22), the best mode contemplated by the inventor of carrying out his invention using the first applied electric field intensity (referring to the figures).

"Figure 2 is a crossectional drawing .... (t)his device has two orthogonal applied electric fields. The first (labelled E-field number 1 in the the figure) is that which is applied to charge the palladium with deuterons."

The original specification continues (page 5, lines 17-22) with the best mode contemplated by the inventor of carrying out his invention using the second applied electric field intensity.

"The second applied electric field intensity is delivered after full charging has been achieved. In the figure the anode and cathode are labelled as 7 and 1. The electrolyte solution or gel is labelled as 6. The connections for the first electric field are labelled as 81 and 82. The connections for the second electric field are labelled as 85 and 86. The mechanical casing is labelled 20."

Where are these in the cited references?

378. The original specification teaches (page 5, lines 23-25) the best mode contemplated by the inventor of carrying out his invention with respect to the impermeable barrier (referring to the figures).

"The deuteron impermeable barrier is comb-shaped in this preferred configuration, and is labelled 55 in figure 13."

The original specification teaches (page 6, lines 1-5) and elaborates for those skilled in the art to make and use the subject matter defined by each of the rejected claims.

"The cathode in this preferred configuration is divided into parallel slabs. Between these slabs alternate deuteron-impermeable barriers. Application of the second electric field causes the deuterons already loaded in the cathode to redistribute, but the deuteron-impermeable barrier(s) act to enhance the desired reactions."

Where is this in the cited references?

379. As the original specification teaches (page 6, lines 7-13), the best mode contemplated by the inventor of carrying out his invention

"Each device is equipped with orthogonal applied electric fields. The second applied electric field intensity is delivered after full charging. These devices each contain a cathode (labelled 1), intradevice gel containing lithium and palladium deuteroxide (labelled 6), and anode (labelled 7)."

The original specification teaches (page 7, lines 1-4), the best mode contemplated by the inventor of carrying out his invention

"The result is the piling up of deuterium at the deuteron-impermeable barriers (labeled 55). The heat energy is directed out via the the heat pipes and the thermal bus."

Where are these in the cited references?

380. In one embodiment, as the original specification continues, detailed instructions are taught for producing the desired result (page 6, lines 15-24),

"These CAM devices are inserted, similar to a fuse onto a holding board, held in place by clips ... The three CAM device are connected to a microprocessor control system... Said apparatus has an electrical bus to

connect the anodes which are connected to the anodic connectors (labelled 82). Said apparatus has an electrical bus to connect the cathodes ... The cathodic system buses (106 and 107) are electrically shorted together during the deuterium charging."

Where are these in the cited references?

381. Each of these features, and those of the original specification of which this is the divisional, is novel and not obvious. The original specfication describes the subject matter defined by each of the rejected claims, and enables any person skilled in the art to make and use the subject matter defined by each of the rejected claims, and sets forth the best mode contemplated by the inventor of carrying out his invention. The operability and usefulness (that is, enablement) of the original specification was demonstrated to be correct at the time of the original filing in Fusion Technology (of the American Nuclear Society) and elsewhere which demonstrate operability and utility [validation]. These include, but are not limited to, the following: Swartz (1998), Improved Electrolytic Reactor Performance Using π-Notch System Operation and Gold Anodes, Transactions of the American Nuclear Association, Nashville, Tenn 1998 Meeting, (ISSN:0003-018X publisher LaGrange, Ill) 78, 84-85, Swartz. (1997), Fusion Technology, 31, 63-74.

382. In summary, Westfall, Edwards, Sadoway, Van Noorden, and Dufour are different and distinguishable from applicant's claims and have none of the features of the present invention which is a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

When extraction is used, the present invention extracts differently than Edwards, Sadoway, Van Noorden, or Dufour (supra). With MHD (the cited art) the separation is outside of the site of the reactions, which is quite different from the present application where an inhomogeneous applied magnetic field intensity is used within the system to extract product.

This present invention is novel and not anticipated by the cited art. Nowhere in the Examiner's cited art, is any aspect of the features of '691. Thus, the material of Applicant's invention, '691, does not read on Edwards, Sadoway, Van Noorden, or Dufour, as the Examiner suggests, and therefore, the present application is a novel and nonobvious.

LAW

383. With respect to evaluation of claims under 35 U.S.C. 103, 'every portion of the ... claims must be considered in determining ... obviousness' [emphasis added; In re Duva, 156 USPQ 90, 94 (CCPA 1967)]. The Court, in reversing the Office in In re Kuderna and Phillips, 165 USPQ 575, 578- (CCPA 1970), referred to the 'sum of the relevant teaching in the art, ' pointing out that the Office is not allowed to 'view ... first one and then another of isolated teachings' when determining that 'the subject matter as a whole would have been obvious at the time the invention was made', as required by 35 U.S.C. 103. Particularly pertinent is In re Shuman and Meinhardt, 150 USPQ 54, 57 (CCPA 1966) wherein the court said:

> **'References are evaluated by ascertaining the facts fairly disclosed therein as a whole. It is impermissible to first ascertain It is factually what appellants did and then view the prior art in such a manner as to select from the random facts of that art only those which may be modified and the utilized to reconstruct appellant's invention from such prior art. [Emphasis added.]**

It is basic that the claims define the invention. The courts have said that:

> **'All words in a claim must be considered in judging the patentability of that claim against the prior art ... ', In re Wilson, 165 USPQ 494 (CCPA 1970). The terms in the claims 'should be given the meaning they would have 'to one of ordinary skill in the pertinent art when read in the light of and consistently with the specification ...', In re Benson and Tabbott, 169 USPQ 548, 552 (CCPA 1971).**

The Court of Custom and Patent Appeals in In re Langer and Haynes, 175 USPQ 169, 171 (CCPA 1972) and as to a rejection based upon prior art teachings, said:

> **'This court has said that '(a)ll of the disclosures in a reference must be evaluated for what they fairly teach (emphasis added) one of the ordinary skill in the art.'**

384. Where is the method of the claims taught in the references? How were all portions of the claims considered in determining obviousness? Does Westfall, Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour act as a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means

including barriers impermeable to the flow of said isotopic fuel within said material, as the Examiner purports? No.

Does Westfall, Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour extract product using an inhomogeneous magnetic field intensity which has forces which go as (μ H) *(μ H) as the Examiner purports? No.

385. The figures and claims of Westfall, Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour are intended to, and do, serve a different purpose than does the figures and Claims 1, 5 through 8, 10 through 14, and 21 through 30 in the present invention, and Edwards, Sadoway, Van Noorden, or Dufour adds nothing of substance to Westfall.

None of the references to which the Examiner refers are concerned with this application's novel means to a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material, followed by extraction of product using an inhomogeneous magnetic field intensity which has forces proportional to (μ H) *(μ H).

None of the references suggests, alludes to, or teaches a structure as defined by the Claims 1, 5 through 8, 10 through 14, and 21 through 30 of this invention of Figure 2, therein.

Unsuggested Combination:

386. There is no suggestion in the references themselves that they be combined, or could be combined.

Where was the suggestion of the desirability of the modification? Indeed, neither of the references suggests, alludes to, or teaches a structure as defined by the claims of this invention, and as should be apparent?

The need for the prior art references themselves to suggest that they can be combined is well known. Therefore, of what relevance then is Westfall, Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour?

On the matter of applying references to claimed subject matter [eg. cf. In re Mercier, 185 U.S.P.Q. 774, (CCPA, 1975)]:

'These and other questions arise because the board's approach fails to recognize that all of the relevant teachings of the cited references must be considered in determining what they fairly teach to one having ordinary skill in the art. * * * 'The relevant portions of a reference include not only those teachings which would suggest particular aspects of an invention to one having ordinary skill in the art, but also those teachings which would lead such a person away from the cited invention.'

As was stated in In re Sernaker, 217 U.S.P.Q. 1,6 (CAPC 1983)]:

d'(P)rior art references in combination do not make an invention obvious unless something in the prior art references would suggest that advantage to be derived from combining their teachings.'

3887 The suggestion to combine the references should come from the prior art, rather than from applicant. As was forcefully stated in Orthopedic Equipment Co. Inc. v, United States, 217 U.S.P.W. 193, 199 (CAPC 1983):

'It is wrong to use the patent in suit [here the patent application] as a guide through the maze of prior art references, combining the right references in the right way to achieve the result of the claims in suit [here the claims at issue]. Monday morning quarterbacking is quite improper when responding the question of nonobviousness in a court of law [here the Office].'

Indeed, what the Office has done here is to

'pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art'

[In re Umbrecht, 160 USPQ 15, 19 (CCPA 1968)].

There is no teaching in the references that would support the combination the Office uses to reject the claims. The applicable law will now be noted in greater detail.

388. **NOTA BENE:** The Examiner is incorrect. In order to combine references there must be a 'suggestion of the desirability' of the combination, In re Noznik, Tatter and Obenauf, 178 USPQ 43, 45 (CCPA 1973). That holding is the reason why the origin of the combination must be given weight -- not only the possibility of such combination; see the reference to 'motivation or reason in Chicago Rawhide {**} which focuses quite clearly on the rationale of recent decisions of the Court of Appeals for the Federal Circuit (CAFC) on the issue of obviousness, as discussed, for example, in In re Gordon, 221 USPQ 1125 (Fed. Cir. 1984), wherein the court said at page 1127:

'The mere fact that the prior art could be so modified should not have made the modification obvious unless the prior art suggested the desirability of the modification. [Emphasis added]

[{**} Ex parte Chicago Rawhide Manufacturing Co., 223 USPQ 351, 353 (Bd. of App. 1984)]

There would be no reason for one skilled in the art to combine such disparate references such as Westfall, Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour to purportedly obtain the present invention as the Examiner has done. Furthermore, there is no suggestion in the references themselves that they be combined, or could be combined that way. Thus the applicant submits that any combination of Westfall with Westfall, Edwards, Sadoway, Van Noorden, or Dufour is an improper one, absent any showing in the references themselves that they can or should be so combined.

389. In the present case, the rejection of certain claims uses the Westfall patent [which is related to electroplating] located far afield from Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour which are in the fields of cold and hot fusion. The applicant submits that any combination of them is an improper one, absent any showing in the references themselves that they can or should be so combined.

390. Where was the suggestion of the desirability of the modification? Indeed, what the Office has done here is to 'pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art', In re Umbrecht, 160 USPQ 15, 19 (CCPA 1968). There is no teaching in the references that would support the combination the Office uses to reject Claims 1, 5 through 8, 10 through 14, and 21 through 30, as should be apparent to the Office.

Thus the applicant submits that any combination of Westfall with Edwards, Sadoway, Van Noorden, or Dufour or the other art is an improper one, absent any showing in the references themselves that they can or should be so combined.

391. None of the references suggests, alludes to, or teaches the structure as defined by Claims 1, 5 through 8, 10 through 14, and 21 through 30. As said in Ex parte Fleischmann, 157 USPQ 155, 156) Bd. of Appeals 1967):

'While as an abstract proposition it might be possible to select features from the secondary references, as the examiner has done, and mechanically combine them with the (other citation) to arrive at appellant's claimed combination, we find absolutely no basis for making such combination neither disclosed nor suggested in the patents relied on.'

392. On the matter of combining references under section 103, no better expression of the law is found then that in Higley v. Brenner, Cmr. Pats., 155 USPQ 481, 484 (CADC 1967):

'The obviousness question here revolves around the Patent Office's combining prior references. Reliance may properly be placed on such a combination to negative patentability where the applicant's subject matter is suggested or 'taught' by the prior references. Application of Van Deventer, 223 F.2d 274, 276 106 USPQ 121, 123 (CCPA 1955); Application of Demarche, 219 F.2d 952, 956, 105 USPQ 65, 69 (CCPA 1955).'

'The test of obviousness, however, must be applied as of the time of the invention and not retrospectively as of the time of the suit. Many things may seem obvious after they have been made and for this reason courts should guard against slipping into the use of hindsight'.

393. Attention is directled to the fact that both Edwards, Sadoway, Van Noorden, or Dufour involve use of a magnetic field using the Lorentz force with the cross-product force ($v \times \mu H$). By contrast, the present invention uses a different group of materials, for a different group of functions, and a different final result. Thus, the present invention is not involved in using the Lorentz force, but teaches an extraction proceedure using an inhomogeneous magnetic field intensity which has forces which goes as (μH) *(μH), and not ($v \times \mu H$) as taught in Edwards, Sadoway, Van Noorden, or Dufour. Simply put, the present invention does not use magnetohydrodynamic systems to produce electric energy directly from a nuclear fusion device involving a liquid lithium as taught in Lasche and Wooley. The Examiner's use of Westfall and Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour is improper.

394. The materials used in Westfall, Edwards, Sadoway, Van Noorden, or Dufour do not function as the active material used in the present invention. Furthermore, the use of liquid lithium, solid lithium, liquid metal blankets and plasmas in Lasche and Wooley, are quite different from the present invention.

Simply put, the figures and claims of Westfall, Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour are intended to, and do, serve a different purpose than does the structure defined by claims herein, and Edwards, Sadoway, Van Noorden, or Dufour add nothing of substance to Westfall. Thus the applicant submits that any combination of Westfall with Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour is an improper one, absent any showing in the references themselves that they can or should be so combined.

If either Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour were used in the present invention, or placed in any way into the present invention, the combination would not function. The Examiner's use of Westfall and Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour is improper.

The Examiner's connecting Westfall and either Cedzynska, Edwards, Sadoway, Van Noorden, or Dufour is improper.

Furthermore, how were all portions of the claims considered in determining obviousness?

As is saliently clear, there has not been a fair standard of review.

395. The suggestion to combine the references should come from the prior art, rather than from Examiner. In the present case, the rejection of claims under 35 U.S.C. 103(a) uses the Westfall patent [which is related to producing heat from loaded palladium using the simple technique of F+P modified by a surface layer and is not the present invention which involves a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material.

The Examiner has rejected the claims on the basis of 'random facts' in the art cited and has modified those random facts in a manner without 'motivation or reason' derived from those random facts [Chicago-Rawhide]. However, even picking and choosing bits and pieces of the various references as the Office has done here, does not lead one to the invention as defined by Claims 1, 5 through 8, 10 through 14, and 21 through 30.

ADDITIONAL REASON OVERCOMING THE EXAMINER'S POSITION REGARDING USC 103

The Cited but Non-Applied References

396. The cited but not applied references have been studied but are submitted to be less relevant than the relied upon references.

Additional Reasons Militate In Favor of Unobviousness

397. The applicant respectfully notes to the examiner that there exist additional reasons which militate in favor of unobviousness.

Unexpected Results:

398. Up to now, insofar as the applicant is aware, the prior art cited by the examiner has virtually ignored how to activate isotopic fuel, which is loaded into a material. The device described within the above-entitled application and thus both superior, unsuggested, and unobvious.

Assumed Insolubility.

399. Up to now, many skilled in the art have thought, or have found, that both obtaining fusion of this type, and the specific problem solved by this invention, were insoluble. The failures of much prior art, including but not limited to those cited by the examiner, indicates that a solution of these problems was, therefore, not obvious. This general lack of an obvious solution is discussed in the above-entitled application.

400. In summary, the cited references cannot be combined in the manner suggested and the claimed features of the invention described in the above-entitled application are lacking in the cited references. The present invention is distinct from the prior art and other art. None of the references shows a method which includes in combination supplying an isotopic fuel to said material, loading said isotopic fuel into said material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material as taught in the above-entitled patent application. Applicant submits that the above-recited novel features in the independent claims, and hence in all claims, provide new and unexpected results and hence should be considered unobvious, making the claims patentable under Section 103.

The Appellant has explained in detail (supra) how the cited art are different and therefore produce a different result from the present invention. Applicant has given lists of additional critical features and components which distinguish Applicant's invention to operatively function in a different manner to the cited art. Therefore, in accordance with the foregoing arguments, Applicant has fully conformed with the requirements of section 103 of the Patent Act; and further, that Claims 1, 5 through 8, 10 through 14, and 21 through 30 of the present invention clearly define patentable subject matter. These claims are patentable over the cited references because the claims recite novel structure and thus are distinguished physically over every reference [Sec. 102], and the physical distinctions effect new and unexpected results, thereby indicating that the physical distinction is simply not obvious [Sec. 103]. Given the above, reconsideration of the rejection of claims is respectfully requested.

ARGUMENTS - Claim Rejection under 35 USC 101 Rejection

401. The Office knowingly, falsely, states,

"Claims 1, 10, 11, 21, 22, and 24-30 are rejected under 35 U.S.C. 101 because the claimed invention as disclosed is inoperative and therefore lacks utility".

Claims 1, 5-8, 10-14 and 21-30 are rejected under 35 U.S.C. 101 because the claimed invention as disclosed is inoperative and therefore lacks utility. .... There is no reputable evidence of record to indicate the invention has been reduced to the point of providing in current available form, an operative cold fusion system. The invention is not considered as meeting the requirements of 35 U.S.C. 101 as being "useful". Note in this respect, Page A14 of the 7/13/89 edition of The Washington Post which indicates that there is no convincing evidence that the "phenomena attributed to cold fusion would produce useful sources of energy".

All Claims are rejected under 35 U.S.C. 101 by the Examiner, based upon flawed reference to other art ("FP" or "F+P") and by what appears to be the Examiner's ignoring said submitted Declarations of fact and accompanying Exhibits. The appealed claims do not stand or fall together. Claims 1, 10, and 21 are separately patentable and do not stand or fall together because they are materially distinct with respect to 35 USC 101. Claims 1, 10, and 21 are separately patentable because they are not unduly multiplied, have separate limitations, and are required because the invention described by the original specification of the above-entitled application is very complex.

The Claims are rejected under 35 U.S.C. 101 in the Examiner's and Office's flawed notion and discriminatory, unscientific, and inaccurate opinion, aided by disingenuous statements and irrelevant cited art. However, Title 35 U.S.C. 101 provides for the issuance of a patent to a person who

> **"invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title." [450 U.S. 175, 182].**

These Claims are compliant with 35 U.S.C. 101 because the claimed invention as disclosed is operative and has utility. Pursuant 35 U.S.C. 101, Applicant is entitled to a patent for his new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement there. This will be shown in detail below (as it has been above).

402. The invention at issue in this case, '691, has much utility. It is claimed by Claims 1, 5-8, 10-14, 21-30, is generally speaking a method to control hydrogen loaded into a metal such as palladium. Such loading by hydrogen occurs much as a sponge fills (loads) with water. This invention uses the hydrogen as a fuel, and for each device usually one isotope of hydrogen (protium or deuterium) is chosen (loaded into nickel or palladium, respectively). Specifically, the above-entitled invention is a method to control the production of the desired products (such as heat). This includes in combination loading the hydrogen using a first applied electric field, and then at a later point in time applying a second electric field to redistribute said isotopic fuel within said material, with means to obstruct the flow of the loaded hydrogen.

403. The original specification states (page 1, lines 7-8) this subject matter is a method of great utility

The original specification teaches (page 4, line 26 through page 5, line 3), the best mode contemplated by the inventor of carrying out his invention

> **" ...label 1 represents the metallic cathode, usually palladium in the preferred configuration. ... The label 7 represents the anode which in the preferred embodiment is composed of palladium. The label 6 represents the solution consisting in the preferred embodiment of a gel containing antidesiccant, in combination with LiOD, palladium salts, and heavy water (D2O). "**

The original specification teaches (page 5, lines 14-17), the best mode contemplated by the inventor of carrying out his invention using the first applied electric field intensity (referring to the figures).

"Figure 2 is a crossectional drawing .... (t)his device has two orthogonal applied electric fields. The first (labelled E-field number 1 in the the figure) is that which is applied to charge the palladium with deuterons."

The original specification continues (page 5, lines 17-22) with the best mode contemplated by the inventor of carrying out his invention using the second applied electric field intensity.

"The second applied electric field intensity is delivered after full charging has been achieved. In the figure the anode and cathode are labelled as 7 and 1. The electrolyte solution or gel is labelled as 6. The connections for the first electric field are labelled as 81 and 82. The connections for the second electric field are labelled as 85 and 86. The mechanical casing is labelled 20."

The original specification teaches (page 6, lines 1-13) subject matter of great utility.

"The cathode in this preferred configuration is divided into parallel slabs. Between these slabs alternate deuteron-impermeable barriers. Application of the second electric field causes the deuterons already loaded in the cathode to redistribute, but the deuteron-impermeable barrier(s) act to enhance the desired reactions."

"Each device is equipped with orthogonal applied electric fields. The second applied electric field intensity is delivered after full charging. These devices each contain a cathode (labelled 1), intradevice gel containing lithium and palladium deuteroxide (labelled 6), and anode (labelled 7)."

In one embodiment, as the original specification continues, detailed instructions are taught -- features of great utiliity (page 6, lines 15-28),

"These CAM devices are inserted, similar to a fuse onto a holding board, held in place by clips ... The three CAM device are connected to a microprocessor control system... Said apparatus has an electrical bus to connect the anodes which are connected to the anodic connectors (labelled 82). Said apparatus has an electrical bus to connect the cathodes ... The cathodic system buses (106 and 107) are electrically shorted together during the deuterium charging."

"Said apparatus has a thermal bus connected to the heat pipes which are held in a mechanical connecting system (labelled 20)."

404. Each of these features, and those of the original specification of which this is the divisional has obvious great utility. The original specfication describes the subject matter defined by each of the rejected claims, and enables any person skilled in the art to make and use the subject matter defined by each of the rejected claims, and sets forth the best mode contemplated by the inventor of carrying out his invention. The usefulness of the original specification was demonstrated to be correct at the time of the original filing in Fusion Technology (of the American Nuclear Society) and elsewhere which demonstrate operability and utility [validation]. These include, but are not limited to, the following: Swartz (1998), Improved Electrolytic Reactor Performance Using π-Notch System Operation and Gold Anodes, Transactions of the American Nuclear Association, Nashville, Tenn 1998 Meeting, (ISSN:0003-018X publisher LaGrange, Ill) 78, 84-85, Swartz. (1997), Fusion Technology, 31, 63-74. Based upon the Evidence which the Office, and past Examiner, have removed from the file folder and/or otherwise systematically ignored, it can be seen that the Applicant has set forth an invention of great utility within the meaning of 35 U.S.C. 101. See Brennerv. Manson, 148 U.S.P.Q. 689.

Invention's Utility Confirmed by Claims

405. Proof of conformity of the claims with 35 U.S.C. 101 can be understood by first examining Claim 1, starting with the preamble. To emphasize, and corroborate, this fact more clearly, note:

(1) the preamble of claim 1 recites the purpose of the apparatus "In a process for producing a product using a material loaded with an isotopic fuel, a method to control the production of said product".
(2) the steps are able to each stand alone (MPEP 2111.02).

1.In a process for producing a product using a material loaded with an isotopic fuel, a method to control the production of said product which includes in combination:
applying an electric field to load said isotopic fuel to said material,
loading said isotopic fuel into said material,
applying a second electric field in a non-parallel direction to the first applied electric fields,
producing redistribution of said isotopic fuel within said loaded metal,
thereby controlling the product produced.

In this case, Claim 1 claims a method where each part can be easily understood to persons with normal engineering skill in any art.

Therefore, claim 1 can be asserted to have justifiable utility when the preamble is put in proper perspective.

406. One of the most important points regarding Office rejections under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph, is that the claimed invention should be the focus of the utility requirement.

- "Each claim therefore, must be evaluated on its own merits for compliance with all statutory requirements" (MPEP 2107.01, I.).

Further regarding the question of utility, claim 1 must be given the broadest reasonable interpretation.

"Reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from 'reading the limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim"- In re Prater.

Therefore, Claim 1 has, and all of the claims have, justifiable utility as a method to determine the optimum electrical drive condition for said sample and thereby characterize said sample, when a broader interpretation is given to it.

407. The proof of conformity of the claims with 35 U.S.C. 101 can be understood by examining Claim 1, and then dependant claims.

The original specification teaches precisely and specifies for those skilled in the art, the issue of loading which the present invention measures. The original specification continues,with an overview of instructions teaching the apparatus for producing the desired result.

The original specification teaches why this invention has great utility: the measurement of loading.

This is subject matter for which the present invention has great utility.

Invention's Utility Confirmed by Declarations

408. The above-entitled invention, '058 (like '457 before it - and from which it is a continuation) has utility, as confirmed by the unrebutted, essentially ignored, Declarations.

Applicant has completely undertaken the full burden of coming forward with his evidence before the Final, as required [In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444]. The Declarations were and are submitted with discussion of how their statements have relevance to the current application, and the behavior of the Office, and why said statements pertain to, and rebut, the Examiner's rejections.

409. The Examiner's Response is non-responsive to the submitted Declarations and *Amicus Curiae* Briefs which remain unrebutted and which corroborate both the "utility" of these teachings. In this case, as in S/N 07/760,970 and Federal Appeals Court 00-1108, the Office is disingenuous -- and obviously, egegiously disingenuous because the Office has ignored the many Declarants who affirm utility.

For example, the Examiner's Response is non-responsive to the Rotegard Declaration:

> **"If only a few labs had reported success, then skepticism of cold fusion would be viable. Several research teams reported positive finding on the original Fleischmann Pons effect at the Fourth International Conference on Cold Fusion in December 1993. I submit that Occams razor would dictate that the phenomena is real and has been "reproduced" to the point of overkill.**
>
> **"Major research institutions, industrial corporations and established scientific journals of international repute have endorsed the reality of cold fusion and are acting to explore and benefit from this reality. *** These trends would lead a prudent person to conclude that there is substance to the research cited above. Therefore, developments and inventions in this area have great utility."**
>
> [Declaration of Dana R. Rotegard, 1994]

As another example, the Examiner's Response is non-responsive to the fact that Dr. McKubre stated:

> **"For me, the best heat report, and perhaps the best report at this conference, was that of Mitch Swartz. ... I have not been able to perform the experiments myself, successfully, and I have always felt that the quality of the calorimetric observations in the nickel light water studies has been less than the quality of the calorimetric observations in the palladium-detuerium system. ... Mitch Swartz presented a very clear piece of calorimetric evidence which is cerainly going to cause me to reconsider my belief and**

understanding of the nickel-light water system and its capacity to produce anomalous heat"
[Dr. Michael McKubre, SRI, Infinite Energy, 4, 20 , pp.34-35, (1998)]

The Examiner's Response is also non-responsive to the fact that Dr. Rehn, U.S. Navy, said

"Perhaps the clearest scientific fact, at this time, is the hardest for physicists to accept: nuclear reactions apparently do occur in deuterium-loaded Pd, Ti, and probably in other solids."
[Office of Naval Research Asian Office, NAVSO P-3580, Vol. 18, Jan. 1993].

This confirms that Dr. Will, another Office witness, said,

"Significant positive results have been obtained (by) 100 groups from more than 12 countries"
[Final Report NCFI (1991)].

The Examiner's Response is non-responsive to the fact that controlled nuclear fusion offers the possibility of an inexpensive source of energy for the United States and is of great utility. The original specification has explicitly indicated why there is great utility of both the field and the present invention. Energy needs dominate both the economy and welfare of humanity as has been shown historically. Therefore, this technology has great utility to society.

410. In the international community, Dr. McKubre is among the most highly regarded of those skilled in the art. Dr. McKubre stated:

"For me ... perhaps the best report at this conference, was that of Mitch Swartz. ... I have always felt that the quality of the calorimetric observations in the nickel light water studies has been less than the quality of the calorimetric observations in the palladium-deuterium system. ... Mitch Swartz presented a very clear piece of calorimetric evidence which is certainly going to cause me to reconsider my belief and understanding of the nickel-light water system and its capacity to produce anomalous heat" [Dr. Michael McKubre, SRI, at his closing "Summary During ICCF-7", Infinite Energy, 4, 20 , pp. 34-35, (1998)]

411. Proof of utility should be judged either by those using the invention or those skilled in the art. Validation occurs when scientists actually skilled, and working, in the state-of-the-art state it to be so. These are scientists who research and actually write the current scientific technical papers which undergo peer-review, file patent applications, and attend international conferences. They absolutely disagree with the Examiner on this. In this case, the invention and its utility are convincing to several of ordinary

skill in the art who have stated so at public meetings and the invention meets several stated objectives.

412. Utility is a fact question, and proof of utility is sufficient if it is convincing to one of ordinary skill in the art or if it meets at least one stated objective. The Declarations prove that a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing. Straus and Swartz contain factual statements directly addressing how the specification adequately described the subject matter recited in the claims and demonstrate that it operates as stated. They also herald that a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing. Other Declarants, such as Mallove, Rotegard, Straus, Storms, Fox, Valone, McKubre, S. Chubb and T. Chubb demonstrate that the above-entitled invention has great utility, heralding conformity with the requirements of §101. The Declarations and Amicus Briefs demonstrate that vibrational modes of a material are not "incredible" but that the Examiner has been needlessly harassing the Applicant. The Declarations and Amicus Briefs demonstrate that for one skilled-in-the-art this invention has great utility to monitor a vibrating electrode without undue experimentation to follow loading. These, and other, Declarations show precisely where the Examiner was inaccurate, and affirm that the teachings were sufficient for those skilled in the art. They indicate that Applicant taught correctly in the original specification and claims regarding said monitored vibrating electrode. The submitted Declarations are convincing to anyone who is not biased. The Declarations demonstrate that the original specification and claims clearly define subject matter of considerable utility. Said Declarations constitute a bona fide case, and completely address the Examiner's points of rejection.

413. Once again, the Applicant has undertaken the full burden of coming forward with his evidence before the Final, as required [In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444]. The Declarations have been submitted with discussion of how their statements have relevance to the current application, and the behavior of the Office, and why said statements pertain to, and rebut, the Examiner's rejections.

414. The Affiants have been sworn, but the Examiner has not. Attention of the federal investigatory agencies and the federal court are directed to this matter given the seemingly widespread disingenuity by some in the USPTO with discrimination under color of Law, in a case, the above-entitled application involving efficient, clean energy production, made SPECIAL by the Board of Patent Appeals, and continuing while the United States of America has thereafter been at war involving energy.

Invention's Utility Confirmed by Peer Reviewed Publications

415. Applicant taught in the original specification and claims how his apparatus works. That operability of this systems is further corroborated by peer reviewed published articles. The published papers include those in "Fusion Technology" of the American Nuclear Society. The published papers include Swartz, M.R. "Survey of the Observed Excess Energy and Emissions In Lattice Assisted Nuclear Reactions", Journal of Scientific Exploration, 23, 4, 419-436 (2009), Swartz, M., "Excess Heat from Low Electrical Conductivity Heavy Water Spiral-Wound Pd/D2O/Pt and Pd/D2O-PdCl2/Pt Devices", Condensed Matter Nuclear Science, Proceedings of ICCF-10, eds. Peter L. Hagelstein, Scott, R. Chubb, World Scientific Publishing, NJ, ISBN 981-256-564-6, Pages 29-44; 45-54, and 213-226 (2006), Swartz, 1998, Improved Electrolytic Reactor Performance Using p-Notch System Operation and Gold Anodes, Transactions of the American Nuclear Association, Nashville, Tenn 1998 Meeting, (ISSN:0003-018X publisher LaGrange, Ill) 78, 84-85 and Swartz(97), and other peer-review papers.

416. These peer-reviewed publications are submitted by the Applicant to show that growing numbers of the scientific community consider the positive results of Appellant's work as being operative and of great utility. They disagree with the Examiner's notion that clean, efficient energy production is of no utility.

417. The publications submitted by the Applicant are sufficient to convince one of ordinary skill in the art of the invention's utility (Swartz, 232 F.3d at 864).

418. These peer-reviewed publications (like the timely submitted Declarations) establish facts. Such Evidence consisting of published peer-reviewed scientific articles, proves Applicant was correct on the filing date of the application, and does meet the bar of enablement [In re Hogan, 559 F.2d 595, 60S, 194 USPQ 527, 537 (CCPA 1977)].

LAW

419. The Examiner's Response is non-responsive to the fact that he is incorrect and substantively contradicted by Drs. Chubb, Fox, Mallove, McKubre, and by the Office's own previous witnesses, Dr. Rehn and Dr. Will. This is important because proof of utility should be judged either by those using the invention or those skilled in the art. Corroborating this, validation occurs when scientists actually skilled, and working, in the state-of-the-art state it to be so. These scientists who write the current scientific technical papers which undergo peer-review, file patent applications, and attend international conferences (which have gone on for thirteen years) and they absolutely disagree with the Examiner.

420. The Examiner's Response is non-responsive to the fact that utility is a fact question, and proof of utility is sufficient if it is convincing to one of ordinary skill in the art or if it meets at least one stated objective. Here it does. Unrebutted Declarations have been submitted in this case, and are again submitted, and the Examiner must respond to them substantively [Marino v. Hyatt Corporation; Morrill v. Tong; and Chelebda v.H.E. Fortuna & Brothers Inch]. Furthermore, the Examiner has rejected Marino v.Hyatt Corporation, 793 F.2d 427, 430 (1st Cir. 1986); Morrill v.Tong, 390 Mass. 1207 129 (1983); Chelebda v.H.E. Fortuna & Brothers Inch 609 F.2d 1022 (1st Cir. 1979); Lewis v. Bours, 119 Wn.2d 667, 670, 1992] which require the Examiner to assume that the Declarants' assertions are true. The Declarations demonstrate that the original specification and claims clearly define subject matter of considerable utility. Therefore, the Applicant has fully conformed with, and satisfied, the requirements of §101 of the Patent Act and met at least one (1) stated objective [Standard Oil Co. (Indiana) v.Montedison, S.P.A., 664 F.2d 356, 375, 212 USPQ 327, 344 (3rd Cir. 1981), cert. denied, 456 U.S. 915, 102 S.Ct. 1769, 72 L.Ed.2d 174 (1982); E.I. du Pont de Nemours & Co. v.Berkley & Co.,620F.2d1247,1258 n.10,1260 n17,205 USPQ1,8n10,10n.17(8th Cir.1980); Krantz and Croix v.Olin, 148 USPQ 659, 661-62 (CCPA 1966); Chisum on Patents, 4.04[4] [1983]; RAYTHEON COMPANY v.ROPER CORPORATION, U.S.C.A., Federal Circuit, 1983, 724 F.2d 951, 220 USPQ 592].

The Examiner Mistakes a Question of Fact for a Question of Law

421. The Examiner's Response is non-responsive to the fact that the Examiner dismisses the affiants discussing Applicant's inventions as opinion. However, Declarants' statements and the peer-reviewed publications are Fact. The Examiner has mistaken a question of fact for a question of law. The Examiner cannot dismiss Declarations improperly to "opinion"-status without an adequate explanation of how the Declarations failed to overcome the prima facie case initially established by the Examiner. The Examiner has rejected In re Alton which requires that even the use of the words "it is my opinion" to preface what someone of ordinary skill in the art knows does not transform the factual statements contained in the declaration into opinion testimony. Exactly how many Declarants does it take to overcome the Examiner's unsubstantiated rejection?

422. The Examiner's Response is non-responsive to the fact that the Examiner has ignored the directive of 1.131 (a)(1) which requires that

"When ... a patent ... is rejected .... on reference ... to a printed publication, the inventor of the subject matter of the rejected claim ... may submit an appropriate oath or declaration to overcome the patent or publication."

423. The Examiner has not followed the standards of review. The Office's own rule [M.P.E.P. §2111.01] requires that "the words of a claim ... must be read as they would be interpreted by those of ordinary skill in the art". In this case, given the averments of so many, utility under USC 101 is clearly shown.

"Utility is a fact question, see e.g., Wilden Pump v. Pressed & Welded Products Co, 655 F.2d 984, 988, 213 USPQ 282, 285 (9th Cir. 1981); Nickola v. Peterson, 580 F.2d 898, 911, 198 USPQ 385, 399 (6th Cir. 1978), cert. denied, 440 U.S. 961, 99 S.Ct. 1504, 59 L.Ed.2d 774 (1979)." [RAYTHEON COMPANY v. ROPER CORPORATION, U.S.C.A., Federal Circuit, 1983, 724 F.2d 951, 220 USPQ 592]]

"When a properly claimed invention meets at least one stated objective, utility under 101 is clearly shown. See e.g., Standard Oil Co. (Indiana) v. Montedison, S.P.A., 664 F.2d 356, 375, 212 USPQ 327, 344 (3rd Cir. 1981), cert. denied, 456 U.S. 915, 102 S.Ct. 1769, 72 L.Ed.2d 174 (1982); E.I. du Pont de Nemours & Co. v. Berkley & Co., 620 F.2d 1247, 1258 n. 10, 1260 n. 17, 205 USPQ 1, 8 n. 10, 10 n. 17 (8th Cir.1980); Krantz and Croix v. Olin, 148 USPQ 659, 661-62 (CCPA 1966); Chisum on Patents, 4.04[4] [1983]." [RAYTHEON COMPANY v. ROPER CORPORATION, U.S.C.A., Federal Circuit, 1983, 724 F.2d 951, 220 USPQ 592]]

"Proof of utility is sufficient if it is convincing to one of ordinary skill in the art. In re Irons, 52 CCPA 938, 340 F.2d 974, 144 USPQ 351 (1965). The amount of evidence required depends on the facts of each individual case. In re Gazave, 54 CCPA 1524, 379 F.2d 973, 154 USPQ 92 (1967). The character

and amount of evidence needed may vary, depending on whether the alleged utility appears to accord with or to contravene established scientific principles and beliefs. In re Chilowsky, 43 CCPA 775, 229 F.2d 457, 108 USPQ 321 (1956)."

[In Re JOLLES, U.S.C.P.A., 1980. 628 F.2d 1322, 206 USPQ 885]

424. The Examiner's Response is non-responsive to the fact that the Examiner has changed the standards of review. The Examiner has rejected In re Zurko [142 F.3d 1447, 1449, 46 USPQ2d 1691, 1693 (Fed. Cir.), cert. granted, 119 S. Ct. 401 (1998)] which declares that utility is a fact question [RAYTHEON COMPANY v.ROPER CORPORATION, U.S.C.A., Federal Circuit, 1983, 724 F.2d 951, 220 USPQ 592], and one which the Examiner in this case must review for clear error [Cross v.Iizuka, 753 F.2d 1040, 1044 n.7, 224 USPQ 739, 742 n.7 (Fed. Cir. 1985); also In re Zurko].

In re Irons indicates that utility is a fact question [RAYTHEON COMPANY v. ROPER CORPORATION]. The submitted Declarations and the publications (including e.g. McKubre) are relevant as proof of utility. They demonstrate utility and operability at the time of the filing of this patent, and that it was, and is, important and of considerable utility.

The Examiner has rejected In re Ziegler [992 F.2d 1197, 1200, 26 USPQ2d 1600, 1603 (Fed. Cir. 1993)] which requires the Examiner accept Declarations as factual proof of utility.

The Examiner has rejected In re Ferens [417 F.2d 1072, 1074, 163 USPQ 609,611 (CCPA 1969)] which heralds that Applicant's submitted evidence, including Declarations, is sufficient.

The Examiner has rejected Ex parte Porter which requires that Declarations, submitted in response to the Examiner's comments, must be read, examined, and carefully considered.

The Examiner has rejected In re Morris [127 F.3d 1048, 1053-56, 44 USPQ2d 1023, 1027-30 (Fed. Cir. 1997)] which demands that the interpretation of operability and utility is predicated upon that which one who is skilled-in-the-art would reach. The Examiner must given the claims their broadest reasonable interpretation consistent with that which those skilled-in-the-art would reach.

The Examiner has rejected In re Oetiker [977 F.2d at 1445, 24 USPQ2d at 1444] which requires the Examiner substantively and fully respond to the probative witnesses, because Applicant has undertaken the full burden coming forward.

The Examiner has rejected Ex parte Gray [10 USPQ2d 1922, 1928 (Bd. Pat. App. & Inter. 1989)] which allows for Applicant's submitted expert testimony regarding operability and utility, beyond the detailed specification. The Examiner must give substantial weight to said Declarations about what they said about this invention compared to the Examiner's art regarding the work of others.

The Examiner has rejected In re Brana, 51 F.3d at 1566, 34 USPQ2d at 1441] which indicates Applicant's actions hereby meet the "burden shift ... to provide rebuttal evidence sufficient to convince such a person of the invention's asserted utility".

The Examiner has rejected In re Marzocchi and In re Oetiker which require responsive argument to the fully addressed criticism against the Examiner's unfounded notions. In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971)] declares that the Examiner cannot make the rejection he has unless he has reason to doubt the objective truth of the statements contained in the written description, here corroborated and supported by multiple Declarations.

ADDITIONAL REASON OVERCOMING THE EXAMINER'S POSITION REGARDING USC 101

Transformation for Inactive to Active is Patentable even without the Other Features

425. Utility is a fact question, and proof of utility is sufficient if it meets at least one stated objective. Here it does - a method to increase loading.

Furthermore, a method to increase loading necessarily involves transformation of a state or thing. Therefore, the Examiner has not followed the standards of review because such a two state method should be patentable based upon opinion of the Court.

"Transformation and reduction of an article "to a different state or thing" is the clue to the patentability of a process claim that does not include particular machines."

[GOTTSCHALK v. BENSON, 409 U.S. 63 (1972),
409 U.S. 63, No. 71-485]

"Industrial processes such as this ["a physical and chemical process (which involves) the transformation of an article .... into a different state or thing"] are the types which have historically been eligible to receive the protection of our patent laws. [450 U.S. 175, 185]"
[DIAMOND v. DIEHR, 450 U.S. 175 (1981)]

ADDITIONAL REASON OVERCOMING THE EXAMINER'S POSITION REGARDING USC 101

The Examiner Ignores Constitutional and Congressional Directive and Authority

426. The Examiner has rejected the controlling authority of Art. I, §8, cl. 8 which provides that

"Congress shall have Power (t)o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."
Art. I, §8, cl. 8 empowers Congress in this matter.

The Examiner has rejected that the US Congress has mandated progress.

"The patent laws (reflect) this Nation's deep-seated .... need to encourage progress."
[DIAMOND v. CHAKRABARTY, 447 U.S. 303 (1980), 447 U.S. 303, No. 79-136]

The Examiner has rejected that the US Congress has mandated encouragement of science, and the Office's actions are inconsistent with the Patent Act of 1793, authored by Thomas Jefferson, which defined statutory subject matter as "any new and useful art, machine, manufacture, or composition of matter" Act of Feb. 21, 1793, 1, 1 Stat. 319, and with the Act which embodied Jefferson's philosophy that "ingenuity should receive a liberal encouragement." [447 U.S. 303, 309].

427. Given the facts stated above, and the fact the Office has granted patents to inventions of considerably less "utility" [e.g. Patent 3,580,592 or 3,450,403], any further rejection of the present invention on this arbitrary basis based upon such a presumed "non-utility" would appear to be both capricious, unwarranted, and unreasonable. As the original specification and claims teach, the invention has features of great utility. The Examiner should admit that said features are not "incredible" but can be elicited when using the teachings of the original specification and claims. Furthermore, there is documented existence of these reactions and the preferred environment in which the present invention does operate. The number of papers in this field confirms both the "existence" and "utility" of these phenomena and any associated technologies.

428. Appellant asks the Board, because the Examiner and his supervisor both refused to answer the following question:

Exactly how many Declarants does it take to overcome the Examiner's [unsubstantiated] rejection regarding utility?

CONCLUSION ARGUMENTS - Claim Rejections under 35 USC 101

429. The Office has made an improper and reversible rejection under 35 U.S.C. §101 for any of several reasons. First, proof of utility is sufficient if it is convincing to one of ordinary skill in the art [In re Irons, 52 CCPA 938, 340 F.2d 974, 144 USPQ 351 (1965)]. THIS invention is convincing to several of ordinary skill in the art who have stated so at public meetings and as Declarants and witnesses have stated facts that demonstrate that the original specification and claims clearly define subject matter of considerable utility. The Applicant has taught a method of great utility to many Declarants, all within the meaning of 35 U.S.C. 101 [Brenner v. Manson, 148 U.S.P.Q. 689]. The Declarations thus prove operability and utility of the present invention and demonstrate validation of the Applicant's claimed subject matter. Therefore, the teachings have been corroborated, and therefore there is enablement (a question of law; In re Fouche, 439 F.2d 1237, 1243, 169 USPQ 429, 434, (CCPA 1971)). Enablement, utility, and operability are grounds for patentability.

430. Second, public demonstrations, said Declarations, and the peer-reviewed publications by the American Nuclear Society are Evidence that decimate the Examiner's opinion and discriminatory notions which usurp civil rights.

431. Third, the Examiner has not followed the standards of review, Office rules, or federal law.

i - The Examiner must consider those skilled-in-the-art who oppose and counter his rejection made without serious foundation under 35 U.S.C.§101.

ii - The Examiner has ignored Evidence consisting of the original specification and claims, the submitted Declarations, and publications, which have provided confirmation of utility.

iii - The Examiner ignores In re Brana and In re Eltgroth, 419 F.2d 918, 164 USPQ 221 (CCPA 1970) which demand that the Examiner must establish a reason to doubt an invention's asserted utility. This invention is quite believable. In re Brana, 51 F.3d at 1566, 34 USPQ2d at 1441] indicates Applicant's actions hereby meet the

"burden shift ... to provide rebuttal evidence sufficient to convince such a person of the invention's asserted utility".

iv - The Examiner has rejected In re Marzocchi and In re Oetiker which require responsive argument to the fully addressed criticism against the Examiner's unfounded notions. In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971)] declares that the Examiner cannot make the rejection he has unless he has reason to doubt the objective truth of the statements contained in the written description, here corroborated and supported by multiple Declarations.

432. Fourth, the Examiner has given no precise, accurate foundation as a basis for his own rejection, and change of, Office rules, and federal law. The examiner should explain why these 'filings' and 'references' are inadequate in evidentiary weight, to overcome the evidence proffered by the examiner.

433. Fifth, the Examiner is biased and has systematically instituted a policy of abusive discrimination and harassment focused on, and directed against, the Applicant. Given the facts stated above, and the fact the Office has granted patents to inventions of considerably less "utility" [e.g. Patent 3,580,592 or 3,450,403], any further rejection of the present invention on this arbitrary basis based upon such a presumed "non-utility" would appear to be both capricious, unwarranted, and unreasonable.

434. This invention (structure, operation and composition) is defined by the claims and the original specification of the above-entitled application and not the art to which the Office refers. The present invention has obvious utility. The original specification and claims teach, the invention solves a long-standing problem and has features of great utility. Therefore, the Applicant has fully conformed with, and satisfied, the requirements of §101 of the Patent Act and met at least one (1) stated objective [Standard Oil Co. (Indiana) v.Montedison, S.P.A., 664 F.2d 356, 375, 212 USPQ 327, 344 (3rd Cir. 1981), cert. denied, 456 U.S. 915, 102 S.Ct. 1769, 72 L.Ed.2d 174 (1982); E.I. du Pont de Nemours & Co. v.Berkley & Co.,620F.2d1247,1258 n.10,1260 n17,205 USPQ1,8n10,10n.17(8th Cir.1980); Krantz and Croix v.Olin, 148 USPQ 659, 661-62 (CCPA 1966); Chisum on Patents, 4.04[4] [1983]; RAYTHEON COMPANY v.ROPER CORPORATION, U.S.C.A., Federal Circuit, 1983, 724 F.2d 951, 220 USPQ 592].

435. In summary, the invention (structure, operation and composition) is defined by the claims and the original specification, and in this case they correctly define the invention, and it the teachings have been corroborated, and therefore there is enablement (a question of law; In re Fouche, 439 F.2d 1237, 1243, 169 USPQ 429, 434, (CCPA 1971)). Enablement, utility, and operability are grounds for patentability. In this case, the Applicant has set forth products and methods which have undergone peer-review, and Declarants and other affiants who have stated as fact that there is utility within the meaning of 35 U.S.C. 101 [Brenner v. Manson, 148 U.S.P.Q. 689].

436. In this case, utility under 101 is clearly shown. Therefore, the Applicant has fully conformed with, and satisfied, the requirements of §101 of the Patent Act. Given the utility, Appellant respectfully requests reconsideration and reversal of the rejection of Claims 1, 10, 11, 21, 22, and 24-30 (all Claims) pursuant to U.S.C. 101, and issuance of the above-entitled application.

Office Failed Previous Requests For Constructive Assistance

437. Applicant notes that the Office has ignored his previous requests in '457 that if, for any reason the claims of this application were not believed to be in full condition for allowance, the applicant respectfully requested the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims [pursuant to MPEP 707.07(j)] or in making constructive suggestions [pursuant to MPEP 706.03(d)] in order that this application can be placed in allowable condition as soon as possible and without the need for further proceedings. Instead, peer-reviewed publications submitted were removed from the file folder and the invention was misdescribed.

CONCLUSIONS - Final Arguments: THE PATENT SHOULD BE ISSUED

Reason for Reconsideration - Evidence

438. As factual matters, operability and utility are decided by Declarations and peer-reviewed publications going through those skilled-in-the-art.

The Applicant has submitted:
#1) Declarations from scientists of ordinary skill-in-the-art, who considered the specification and stated that the written description was sufficient. Applicant is acknowledged by those involved in the state-of-the-art. Said evidence shows that the Office's position is in error. and
#2) The published peer-reviewed scientific articles. Said evidence also shows that the Office's position is in error.

Either #1 or #2 are sufficient to demonstrate that the specification provides an adequately written description of the subject matter, including how to operate the invention, and claimed the invention so that an artisan, or those skilled-in-the-art, could practice it without undue experimentation. Either #1 or #2 prove that enablement, utility, and validation. Together, #1 and #2 have been submitted and Applicant submits that these together corroborate enablement of the present invention both de facto and de jure. As such, the Declarations and peer-reviewed publications confirm that the Applicant's original specification and claims taught the subject matter defined by each of the rejected Claims including how his apparatus and method works, set forth the best mode contemplated, distinctly pointed out and claimed the subject matter which constitutes the invention, wrote an adequate enabling disclosure, and thus complied and conformed with 35U.S.C.§112, first paragraph, of the Patent Act.

The Applicant has submitted Evidence which demonstrates that the US PTO's notions of LANR are wrong, and that there are extensive positive published results which confirm the generation of products (including de novo helium 4 and excess enthalpy) using isotopic fuel loaded into a material. This Evidence includes the Mallove, Rotegard, Fox, Shaw, Swartz, and other Declarations.

Reason for Reconsideration - The Law

439. The Examiner's opinion - that the written description fails to illuminate a credible utility - has only been made by not reading on the claims of this patent regarding a monitored vibrating electrode, and by either dismissing the Declarations as opinion or ignoring them altogether. The PTO may establish a reason to doubt an invention's asserted utility only when the written description "suggest[s] an inherently unbelievable undertaking or involve[s] implausible scientific principles." Brana, 51 F.3d at 1566, 34 USPQ2d at 1441; see also In re Eltgroth, 419 F.2d 918, 164 USPQ 221 (CCPA 1970)). Here, the Declarations demonstrate the PTO is wrong in their opinion.

440. The Examine cannot make this type of rejection, unless he has reason to doubt the objective truth of the statements contained in the written description [Brana, 51 F.3d at 1566, 34 USPQ2d at 1441 ("[T]he PTO has the initial burden of challenging a presumptively correct assertion of utility in the disclosure. Only after the PTO provides evidence showing that one of ordinary skill in the art would reasonably doubt the asserted utility does the burden shift to the applicant to provide rebuttal evidence sufficient to convince such a person of the invention's asserted utility."); In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971) ("[A] specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as in compliance with the enabling requirement of the first paragraph of §112 unless there is reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support."). In this case, given the submitted [and received] Declarations, reason never existed doubting the objective truth of the statements relied on for enabling support. Therefore no basis exists for a rejection under either section 112, ¶1 for lack of enablement as a result of "the specification's ... failure to disclose adequately to one ordinarily skilled-in-the-art 'how to use' the invention without undue experimentation," or section 101 for lack of utility "when there is a complete absence of data supporting the statements which set forth the desired results of the claimed invention." [Environtech Corp. v.Al George, Inc., 730 F.2d 753, 762, 221 USPQ 473, 480 (Fed. Cir. 1984); also In re Brana, 51 F.3d 1560, 1564 n.12, 34 USPQ2d 1436, 1439 n.12 (Fed. Cir. 1995)].

441. The Examiner's rejection is factually wrong as the rejection's statements are directly contradicted by substantive evidence already in the record including unrebutted Declarations, and over 140 pounds of exhibits from '457 (hereby also attached for the convenience of the Examiner and the Boardwhich fully addressed all matters criticized

by the Office previously sent to the USPTO (and the Applicant has the postal stamps of the USPTO to prove it). These have probative value. Nothing has been presented which differs or rebuts the Declarations.

442. The Examiner's rejection ignores that there is Obligation by the Office to assume that Petitioner's Declarants' unrebutted assertions --made before the Appeal-- are true [Lewis v. Bours, 119 Wn.2d 667, 670, 1992].

443. Thus, the Examiner's rejection ignores the reasoning of Ex parte Porter because the rejection is inconsistent with unrebutted Declarations which did fully address all matters criticized by the Office and which were supplied in the expectation that they would be read, examined, and carefully considered.

Thus, the Examiner's rejection ignores the reasoning of Ex parte Gray [10 USPQ2d 1922, 1928 (Bd. Pat. App. & Inter. 1989)] because there is solid evidence of operability and utility, beyond the detailed specification, in the form of corroboratory expert testimony including said unrebutted Declarations.

Thus, the Examiner's rejection ignores the reasoning of In re Morris [127 F.3d 1048, 1053-56, 44 USPQ2d 1023, 1027-30 (Fed. Cir. 1997)] because the interpretation of operability and utility is predicated upon that which one who is skilled-in-the-art would reach.

Examiner is in Violation of Office Rules, Federal Law and More

444. The Examiner's rejection is not consistent with code, statute, case law, Office rules, and The United States Constitution as it rejects the reasoning of numerous other rejections of controlling authority. The Examiner's rejection ignores the Directive of The United States Constitution [Clause 8 of Section 8, Article I] by improperly eliminating an entire field involving energy and United States security. The Examiner's rejection ignores the Directive of The United States Constitution [14th Amendment] that Applicant is entitled to an impartial tribunal [28 U.S. Code Section 144, Mayberry v. Penna., 91 S.8.; Bloom v. Illinois, 88 Ct. 499 S.Ct. 1477; Duncan v. Louisiana, 88 S.Ct.1444] and equal protection of the laws. Ignoring unrebutted Declarations and due process patently violates the 14th Amendment's "equal protection" clause [Frontiero v. Richardson, 93 S.Ct. 1736, 411 U.S. 677; Weiss v. Weiss, 436 N.Y.S. 2d. 862, 52 N.Y. 2d. 170 (1981)] with serious implications [Gass v. Lopez, 95 S. Ct 729; Wood v. Strickland, 95 S Ct 9S2: U.S. v. Price, 86 S Ct 1152, 1157, Footnote 7; Griffin v. Breckenridge, 91 S Ct 179D; Gamez v. Toledo, 42 U.S.C. §1983, and Bivens v. Six

Unknown Named Agents of Fed. Bureau of Narcotics]. The Examiner's rejection ignores the reasoning of the Supreme Court that a pro se litigant is entitled to less stringent standards [U.S. Rep, 404, 520-521 (1972)].

REASON FOR GRANTING THE PATENT - Completeness and Compliance

445. There are many ignored, unrebutted Declarations and Amicus Briefs already in the record which prove utility. Declarations are sufficient in their factual content with respect to the significant evidence, and prove that the Examiner is in clear error. By submitting said peer-reviewed publications, showing the Applicant is correct, and said Declarations containing relevant facts by probative witnesses, the Applicant has now undertaken the full burden coming forward with his evidence as required [In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444].

446. The Applicant has taught in the original specification and claims how the activity can be measured by a multiring calorimeter. The method and apparatus measure the activity, with controls and measurement of noise. The original specification and claims (all pending claims) taught the subject matter defined by each of the rejected claims, set forth the best mode contemplated, and distinctly point out and claim the subject matter which constitutes the invention. The original specification and claim adequately presented the claimed invention so that an artisan, or those skilled in the art, --who unlike the Board actually read the it-- could practice it without undue experimentation [In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988), citing with approval *ex parte* Forman, 230 USPQ 546, 547 (Bd. Pat. App. & Int. 1986)].

447. The invention (in structure, operation and composition) is defined by the claims and the original specification, and in this case they correctly and accurately define the invention --which is to measure the activity of a sample -- and therefore there is enablement (a question of law; In re Fouche, 439 F.2d 1237, 1243, 169 USPQ 429, 434, (CCPA 1971)). The enablement, utility, and operability are grounds of patentability [Newman v. Quigg, 877 F.2d 1575, 1581, 11 USPQ2d 1340, 1345 (Fed. Cir. 1989)]. Therefore, the original specification and claims were an adequate and enabling disclosure and complied and conformed with the Patent Act.

448. This request for reconsideration states with particularity the points of law and facts which the Examiner has overlooked or misapprehended using substantive argument and hard evidence -- already in the record. The Supreme Court has ruled that a *pro se* litigant is entitled to less stringent standards [U.S. Rep, 404, 520-521 (1972)].

REASON FOR GRANTING THE PATENT - Obstruction of Justice and HeavyWatergate by the USPTO

449. The above-entitled invention works. It does not need cold fusion. Nonetheless, cold fusion is real (and not even necessary for the technology of the above-entitled application) and the Examiner knows it, and the Board knows it. It is not fair to America that one goal may have been obstruction of justice to enable transfer of these new technologies overseas under color of Law.

Additional Arguments: THE PATENT SHOULD BE ISSUED

I

The patent should be granted for any of several reasons, including failure of the Office to comply with the authority of Article I, Section 8, Clause 8.

450. This invention, itself, may initially appear to be de minimis because it involves a holding apparatus, calorimeter (heat-measuring instrument) and method used to examine heat-generating metal samples, and then a method to maximize the heat produced. However, it is of great and compelling importance when measured by either the particular constitutional mandate of Art. I, §8, cl. 8 or the number of people dependent upon energy monitoring, efficiency and utilization, and alternative energy sources. Congress has spoken to "encourage progress" [DIAMOND v. CHAKRABARTY] and to encourage ingenuity [447 U.S. 303, 309] and has performed its constitutional role in defining patentable statutory subject matter to include "anything under the sun that is made by man." There is no doubt that would include inventions involving energy efficiency and energy and material monitoring within the meaning of the statute. The facts here show the Applicant (and Appellant in '457) DID demonstrate operability and utility of the present invention.

The original specification and claims complied and conformed with the requirements of 35 U.S.C. §112, first paragraph, and 35 U.S.C.§101 of the Patent Act. The Examiner has produced no evidence to the contrary pertaining to the original specification and claims. Therefore, the Office has not acted following Congress lead as authorized by Art. I, §8, cl. 8.

II

The patent should be granted because, as the Affiants and Amici Curiae declare, the Applicabnt has fully conformed with, and satisfied, the requirements of §101 of the Patent Act and met at least one (1) stated objective [*Standard Oil Co. (Indiana) v. Montedison, S.P.A.*, 664 F.2d 356, 375, 212 USPQ 327, 344 (3rd Cir. 1981), cert. denied, 456 U.S. 915, 102 S.Ct. 1769, 72 L.Ed.2d 174 (1982); *E.I. du Pont de Nemours & Co. v. Berkley & Co.*,620F.2d1247,1258 n.10,1260 n17,205 USPQ1,8n10,10n.17(8th Cir.1980); *Krantz and Croix v. Olin*, 148 USPQ 659, 661-62 (CCPA 1966); *Chisum on Patents*, 4.04[4] [1983]; *RAYTHEON COMPANY v. ROPER CORPORATION, U.S.C.A.*, Federal Circuit, 1983, 724 F.2d 951, 220 USPQ 592].

451. The original specification and claims teach, the present invention which includes a holding apparatus, calorimeter (heat-measuring instrument), and method used to examine heat-generating metal samples, and then a method to maximize the heat produced. It solves may long-standing problems. Applicant taught in the original specification and claims how his apparatus works and claimed the invention.

III

The patent should be granted because the Office has systematically ignored timely-submitted peer-reviewed proof of operability and enablement at the time of the initial filing [Swartz (97); A136].

452. The invention has been confirmed both in Declarations and the peer-reviewed publication [Swartz. M., 1997, "Consistency of the Biphasic Nature of Excess Enthalpy in Solid State Anomalous Phenomena with the Quasi-1-Dimensional Model of Isotope Loading into a Material" *Fusion Technology*, 31, 63-74] proving utility and operability (a question of fact). Said Declarations and the published article demonstrating the invention are objective evidence regarding utility and enablement. The rejection should logically match and demonstrate accuracy consistent with said record including the Declarations. In this case, it does not. This is not an *ex parte* case, but a case where there were multiple responses by both parties, and instead of honest reporting, fraud is being encouraged. In this Request, the inaccurate statements, facts, and evidence are clearly again laid out to give the Board an opportunity to correct the situation. **In most free countries, eleven (11) date stamps of the Patent Office is enough impeccable and undeniable evidence to demonstrate submission and receipt of said peer-reviewed publication (A136).**

IV

The patent should be granted because the Office has ignored both the standards of review and its own rules, including the standard of review which requires the Office to provide reason to doubt the objective truth of any of the Declarants' statements [Environtech Corp. v. Al George, Inc., 730 F.2d 753, 762, 221 USPQ 473, 480 (Fed. Cir. 1984)].

453. The Decision does not comport with any notion of fair play of justice. The Office has not properly followed its own standards of review regarding patentability. The unwarranted rejections for putative "lack of operability" under 35 U.S.C. §112, ¶1 and "lack of utility" under 35 U.S.C. §101 has only been made by ignoring the original specification and claims, by misdescribing the invention, by ignoring the timely-submitted unrebutted Declarations, by ignoring scores of Exhibits and references, and by ignoring the Office's own rules, thus creating an arbitrary standard of review for patentability. The putative "indefiniteness" under 35 U.S.C. §112, ¶2 has only been made by ignoring the reasoning of several decisions already in the record, ignoring the Office's own rules, and what those who were skilled-in-the-art at the time the original specification and claims were filed have stated [In re Morris, 96-1425 (Fed Cir, 18 Aug 1997)] in unrebutted Declarations [In re Marzocch (439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971)], which were timely submitted as required [In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)], and which fully addressed all matters criticized by the Office regarding matters of fact. The original specification and claims complied and conformed with the requirements of 35 U.S.C. §112, first paragraph, and 35 U.S.C.§101 of the Patent Act. The Examiner has produced no evidence to the contrary pertaining to the original specification and claims of the above entitled application.

V

The patent should be granted because the Office has disingenuously relied upon reference to art cut of a cloth other than the above-entitled specification and claims. Thus, the Office's position is weak -- which should dictate allowance of the present invention.

454. By contrast, the present invention has significant utility. Energy needs dominate the economy and welfare of humanity. Claims 1-20 (all pending claims) clearly define subject matter of considerable utility, and Applicant has conformed with the requirements of §101 of the Patent Act. Improving the activity of energy production has utility because it is convincing to one of ordinary skill in the art and Applicant has submitted several Declarations saying the teachings have utility as an invention to measure activity. The Examiner is entitled to his opinion but not to the Facts or to some

presumed right to violate US law and the US Constitution in his attempt to subvert said Invention, its specification, subject matter, and claims which meets all said requirements.

SUMMARY

455. The Office should issue the patent because Appellant taught in the original specification and claims how his apparatus works and claimed the invention. Appellant thereafter has made a diligent effort to amend the claims of this application so that the claims define a novel structure which is also submitted to render said claimed structure unobvious because it produces new and unexpected results.

456. The Office should issue the patent because Appellant has herein demonstrated that any combination of Westfall or Kinsella and Edwards, Sadoway, Van Noorden, Dufour, Cedzynska, or Edwards and/or the other cited art is an improper one, absent any showing in the references themselves that they can or should be so combined, and that neither of the references appears to suggest, or allude to, or teach a structure as defined by the teachings of the original specification of the above-entitled application or claimed by Claims 1, 10, 11, 21, 22, and 24-30. Appellant has explained in detail (supra) how the other cited art are different and therefore produce a different result from the present invention. The figures and claims of Westfall or Kinsella and Edwards, Sadoway, Van Noorden, Dufour, Cedzynska, or Edwards and the other cited art are intended to, and do, serve a different purpose than does the structure defined by the claims, and each of the cited art adds nothing of substance. None of the cited references shows a method to control the production of heat or nuclear product which includes in combination loading an isotopic fuel into a material by an applied electric field, and then at a later point in time applying a second applied electric field to redistribute said isotopic fuel within said material, means to control the distribution of the loaded isotopic fuel within the material, means including barriers impermeable to the flow of said isotopic fuel within said material as the Examiner purports.

457. The Office should issue the patent because Appellant has given lists of additional critical features and components which distinguish Applicant's invention to operatively function in a different manner compared to said cited art.

458. The Office should issue the patent because the The US Patent Office has ignored the US Constitution and US security and US citizens' civil rights to withhold reasonable cold fusion patents even though "(m)ost patent applications submitted to the

U.S. Patent and Trademark Office are approved". And they are, including astrology patents to predict lottery numbers. The Office's systematic discrimination and warfare upon the inventive American citizenry (more than just the Appellant) for more than two decades speaks indelibly for itself. The Office is in breach of its responsibility, and the aegis of authority granted to it by Congress under the United States Constitution.

461. The Office should issue the patent because the Appellant notes that the U.S. Supreme Court has ruled that any *pro se* litigant is entitled to less stringent standards [U.S. Rep volume 404, pages 520-521 (72)].

462. The Examiner has been shown to be wrong in his rejection of Claims 1, 10, 11, 21, 22, and 24-30 (all claims) under 35 U.S.C. 112, based upon flawed reference to other art ("FP" or "F+P") rather then the present invention, as failing to comply with the enablement requirement

The Examiner has been shown to be wrong in his rejection of Claims 1, 5-8, 10-14 and 21-30 are rejected under 35 U.S.C. 102(b) as being anticipated byWestfall (U.S. 5,215, 631),

The Examiner has been shown to be wrong in his rejection of Claims 1, 10, 11, 21, 22, and 24-30 are rejected under35 U.S.C. 102(b) as being anticipated by Kinsella et al.(U.S. 3,682,806),

The Examiner has been shown to be wrong in his rejection of Claims 8 and 13 rejected under35 U.S.C. 103(a) as being unpatentable over Cedzynska et al. in view of Wesffall, as applied to claims 1, 5-7, 10-12, 14 and 21-30 above, and further in view of anyone of Edwards, Sadoway (WO 91/06959) or Van Noorden (NL 8909-962-A) or Dufour (WO 91/01036).

The Examiner has been shown to be wrong in his rejection of Claims 1, 5-7, 10-12, 14 and 21-30 are rejected under35 U.S.C. 103(a) as being unpatentable over either one of Cedzynska et al. (WO 93/01601) or Edwards (WO 90/1541 6) in view of Westfall.

The Examiner has been shown to be wrong in his rejection of Claims 1, 10, 11, 21, 22, and 24-30 rejected under 35 U.S.C. 101 by the Examiner, based upon flawed reference to other art ("FP" or "F+P") rather then the present invention, as is just and reasonable.

WHEREFORE for the above reasons, including the timely-submitted Declarations and peer-reviewed published papers, listed on the Forms 1440, which completely refute the Office, together proving validation both *de jure* and *de facto*,

including that the Office's rejection has been based upon disingenuous statements and a flawed notion, and including that the Office's rejection has focused on cloth cut of other art,

the Appellant respectfully requests reversal of the Examiner's rejections and allowance of all claims.

Simply put, all claims do not suffer from any justified rejection at this time, and should be allowed to mature into a patent.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §112 because the claimed invention is operative.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §112 pursuant to the Standards of Review involving testimony of declarants skilled-in-the-art.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §112 pursuant to the Standards of Review involving peer-reviewed publications.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §112 in the disingenuous claim by the Office states, that the present invention resides, in a "non-existent field".

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §112 (second paragraph) because the claimed invention is operative and clearly claimed.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §112 (second paragraph) pursuant to the Standards of Review involving testimony of declarants skilled-in-the-art.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §112 (second paragraph) pursuant to the Standards of Review involving peer-reviewed publications.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §102 because the subject matter sought to be patented as defined by claims 1, 5-8, 10-14, 21-30 is novel.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §103 because the subject matter sought to be patented as defined by claims 1, 5-8, 10-14, 21-30 is non-obvious.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §101 because the claimed invention is operative and therefore has utility.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §101 pursuant to the Standards of Review involving testimony of declarants skilled-in-the-art.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §101 pursuant to the Standards of Review involving peer-reviewed publications.

The evidence shows Claims 1, 5-8, 10-14, 21-30 are patentable under U.S.C. §101 pursuant to the Standards of Review involving reading of the claims.

The Board should, in the alternative, issue an Order compelling the Office to substantively respond to said Declarations discussing operability and utility, including Appellant's [then Applicant's] Declarations submitted 11/4/02, 3/24/03, and 4/30/03, an explanation (rather than condoning by further inaction) the removal of submitted peer reviewed articles from the file folder again combined with bad behavior against the Appellant (then Applicant, too) to obstruct justice and deny the United States of America access to an invention of energy production which is clean and efficient. The Order should include sanctions against the Examiners for adding new material after Final, and for withholding the Appeal Briefs since 2004, for failing to cite all Appeal Briefs of Appellant in the Office's Brief while withholding other Appeal Briefs, for failing to address Appellant's (then Applicant's) Declarations and peer-reviewed publications, all the while actually continuing to issue US Patents dealing with astrology while obstructing the above-entitled application which is a member of a group dealing with ultraclean, extremely efficient, energy production previously made SPECIAL by the Board of Patent Appeals.

Respectfully submitted,

Mitchell Swartz, Appellant, *pro se*
Weston, MA

CERTIFICATE OF MAILING [37 CFR 1.8(a)]

August 26, 2011

To Whom it Does Concern:
I hereby certify that this correspondence will be deposited with the United States Postal Service by First Class Mail, postage prepaid, in an envelope addressed to

"Office of the Clerk
Board of Patent Appeals and Interferences
Box 1450
Alexandria, VA 22313-1450" on the date below.

Thank you.

Sincerely,

August 26, 2011

M.R. Swartz
Weston, MA 02493